



HD Portable Digital Video Wireless FUTV-7132H Transmitter and Mobile Digital FUTV-2009HIA Receiver

User Manual

HD Portable Digital Video Wireless Transmitter Version: FUTV-7132H

Mobile Digital Receiver Version: FUTV-2009HIA

Web NMS version: 2.00

Date: JULY, 2013

About This Manual

Intended Audience

This user manual has been written to help people who have to use, to integrate and to install the product. Some chapters require some prerequisite knowledge in electronics and especially in broadcast technologies and standards.

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Chapter 1 Introduction

1.1 Product Overview

The wireless digital image transmission system (which comprises the wireless transmitter and receiver) adopts the advanced COFDM modulation technology and the channel codes and combines with MPEG4 AVC/H.264 digital image compression multimedia network transmission technology. In addition to high-speed movement and non-line of sight, it can achieve the real time and synchronous transmission of broadband multimedia services such as Video, Audio, data and etc. The system has features of flexible structure, wide coverage, good mobility, strong ability to combat interference and fading.

It is an ideal solution for providing long distance, high quality and high efficiency of wireless real-time transmission applied in emergency telecommunications such as commanding, emergency rescues, and multiple fields like investigation, field battle, public security, armed police, fire control, oil field, mines, water project, electricity, and so on.

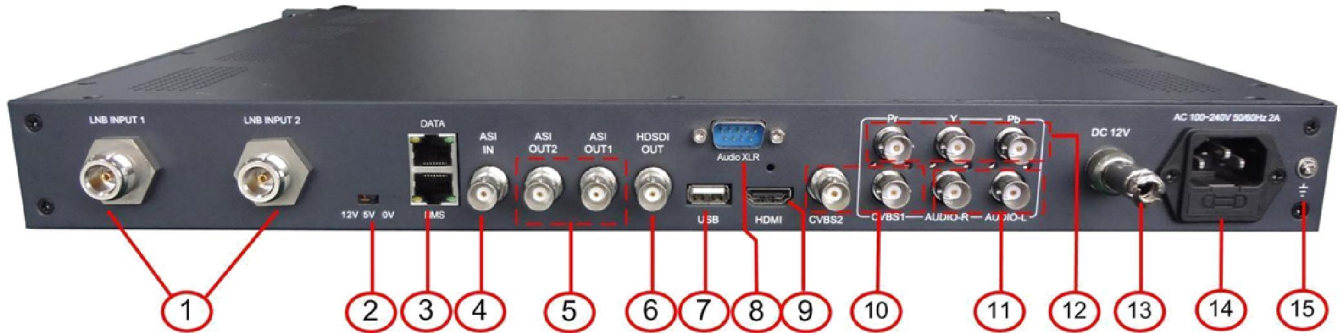
1.2 Appearance and Descriptions (Mobile Receiver)

I The Front Panel Illustration of Receiver



| | | |
|---|--|----------------------------|
| 1 | Power Switch | |
| 2 | LCD Screen | |
| 3 | Indicators | |
| 4 | Key board | Up/Down/Left/Right Buttons |
| | | Enter/Menu/Lock Buttons |
| 5 | LCD Monitor | |
| 6 | LCD Monitor Switch | |
| 7 | LED indicator bars for signal strength & quality | |

I The Rear Panel Illustration of Receiver



| | |
|----|--|
| 1 | RF input interface (antenna interface) |
| 2 | Antenna feed (0V, 5V, 12V) |
| 3 | Ethernet Port (NMS: to connect to PC for management; DATA: for IP signal input and output) |
| 4 | ASI input |
| 5 | ASI output 1 & 2 |
| 6 | HDSDI output |
| 7 | USB Port (for upgrading via USB driver) |
| 8 | Audio XLR output |
| 9 | HDMI output |
| 10 | CVBS1 and CVBS2 video output |
| 11 | Left and right audio channel output |
| 12 | YPbPr video output |
| 13 | DC Power interface |
| 14 | AC Power slot |
| 15 | Grounding |

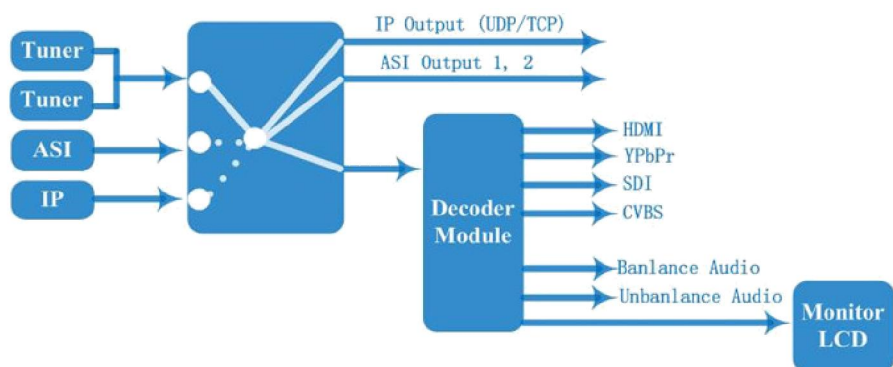
I Key Features

- Ü convenient and efficient network transmission
- Ü dual LNB input
- Ü real-time LED monitor for decoded program
- Ü multi Audio/Video format output: 1*HDMI, 2*CVBS, 1*YPbPr, 1*HD-SDI
- Ü multiple video resolution: 576i/480i, 576p/480p, 720p and 1080i decoding
- Ü Support ASI input and output, IP input and output
- Ü Support Keyboard and LCD operation
- Ü web NMS management via Ethernet port

| Technical Specifications

| RF parameters | |
|-------------------------------|--|
| Transmitting power | 0W ~ 3W adjustable |
| Transmitting frequency | 200MHz~900MHz adjustable |
| Bandwidth | 2MHz, 6MHz, 7MHz, 8 MHz |
| Out-band suppression | ≥50dB |
| Output impedance | 50Ω |
| Inter-band ratio | ≥25dB |
| Output port | N-L16 (negative) |
| Digital modulation parameters | |
| Modulation mode | COFDM (QPSK, 16QAM, 64QAM adjustable) |
| Correcting mode | LDPC |
| MER | ≥22dB |
| BER | ≤10 ⁻⁸ |
| AV input encoding parameters | |
| Video | HDMI/CVBS /YPbPr/S-Video |
| Audio | HDMI, L/R channel non-balanced analog, stereo |
| Image definition | 1920*1080_60P,1920*1080_50P; 1920*1080_60i, 1920*1080_50i; 1280*720_60p, 1280*720_50P; 720x576_50i (PAL); 720x480_60i (NTSC) |
| AV data formatting | MPEG4 AVC/H.264 |
| Miscellaneous | |
| MTBF | ≥10000hrs |
| Working voltage | DC10V~16V(camera exclusive battery) |
| Environmental condition | storage temperature -40℃~+70℃ |
| | work temperature: -20℃~+50℃ |
| | relative temperature 85%(non-condensing) |
| Power dissipation | 15W ~ 18W |
| Dimension | 180×110×88(mm) |
| Weight | 1.8Kg (total aluminum milled parts) |

| Principle Chart



1.3 Appearance and Descriptions (Portable Wireless Transmitter)



I Key Features

- Ü Unfixed spot positioning transmitting of remote distance
- Ü It can transmit close-distance, continuous, and moving (non-vision distance) real-time AV signal.
- Ü Adjustable transmitting power (0-3 W) and frequency (200-900 MHz)
- Ü Adjustable modulating mode (QPSK/16QAM/64QAM)
- Ü The emission system can simultaneously send one video and one audio
- Ü Image quality guaranteed in the transmission process.
- Ü Stable and reliable emission system
- Ü It can cooperate with satellite image car as a repeater.
- Ü It adopts COFDM modulation mode, besides it has strong multipath interference rejection ability, so it can realize 180km/h within the high-speed mobile transmission in signal coverage area
- Ü 1-3 kilometer transmitting distance available

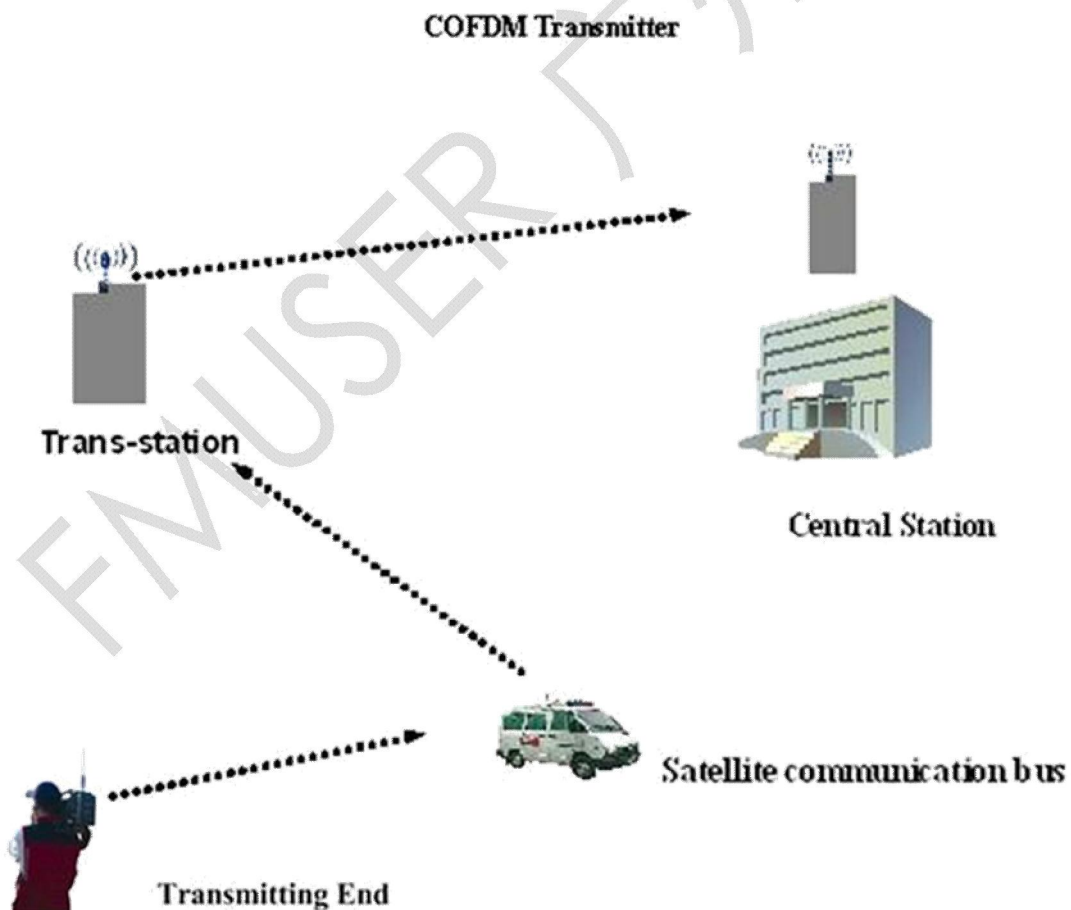
I Technical Specifications

RF parameters

| | |
|-------------------------------|---|
| Transmitting power | 0W ~ 3W adjustable |
| Transmitting frequency | 200MHz ~ 900MHz adjustable |
| Bandwidth | 2MHz, 6MHz, 7MHz, 8 MHz |
| Out-band suppression | 50dB |
| Output impedance | 50 |
| | 25dB |
| Output port | N-L16 (negative) |
| Digital modulation parameters | |
| Modulation mode | COFDM (QPSK, 16QAM, 64QAM adjustable) |
| Correcting mode | LDPC |
| MER | 22dB |
| BER | 10^{-8} |
| AV input encoding parameters | |
| Video | HDMI/CVBS /YPbPr/S-Video |
| Audio | HDMI, L/R channel non-balanced analog, stereo |
| Image definition | 1920*1080_60P,1920*1080_50P; |
| | |

| | |
|-------------------------|--|
| | 1920*1080_60i, 1920*1080_50i; 1280*720_60p, 1280*720_50P; 720x576_50i (PAL); 720x480_60i (NTSC) |
| AV data formatting | MPEG4 AVC/H.264 |
| Miscellaneous | |
| MTBF | 10000hrs |
| Working voltage | DC10V ~ 16V(camera exclusive battery) |
| Environmental condition | storage temperature -40 ~+70 |
| | work temperature: -20 ~+50 |
| | relative temperature 85%(non-condensing) |
| Power dissipation | 15W ~ 18W |
| Dimension | 180×110×88(mm) |
| Weight | 1.8Kg (total aluminum milled parts) |

| Principle Chart



Chapter 2 Installation Guide

This section is to explain the cautions the users must know in some case that possible injure may bring to users when it's used or installed. For this reason, please read all details here and make in mind before installing or using the product.

2.1 Acquisition Check

When users open the package, it is necessary to check items according to packing list of your purchase order. Normally it should include the following items:

- Ø Portable Wireless Transmitter
- Ø Mobile Digital Receiver
- Ø User Manual
- Ø Antenna
- Ø Power Cord

If any item is missing or mismatching with the list above, please contact local dealer.

2.2 Installation Preparation

When users install the device, please follow the below steps. The details of installation will be described at the rest part of this chapter. Users can also refer rear panel chart during the installation.

The main contents of this chapter include:

- Ø Checking the possible device missing or damage during the transportation
- Ø Preparing relevant environment for installation
- Ø Installing the transmitter and the receiver
- Ø Connecting signal cables

2.3 Transmitter Installation

Method one: users can directly install the antenna on the transmitter and screw it tightly as following picture.



Note: please use the antenna correctly, or the transmitter would be damaged. The antenna for the transmitter and receiver can be distinguished as following picture shows.



| | |
|---|---|
| 1 | Transmitter antenna (with thin needle inside) |
| 2 | Receiver antenna (with thick needle inside) |

Method two: if users order the antenna feeders, the transmitter would be installed as follows:

- 1) Take one antenna feeder, and use one end of the feeder to connect with the transmitter antenna;
- 2) Use the other end of the antenna feeder to connect with the transmitter directly.

2.4 Receiver installation

Method one: firstly, users should take the receiver antenna and connect the antenna with the sucker, and then connect the sucker with the receiver on the LNB Input port.



Method two: if users order the antenna feeders, the receiver would be installed as follows:

- 1) Take one antenna feeder, and use one end of the feeder to connect with the transmitter antenna;
- 2) Use the other end of the antenna feeder to connect with the receiver on the LNB Input port.

2.5 Wire's Connection

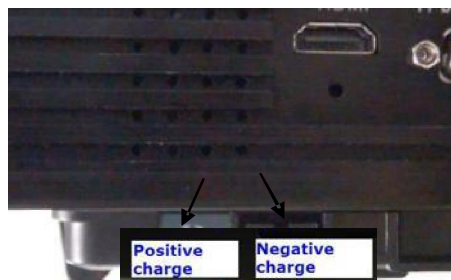
2.5.1 Wire's connection of transmitter

2.5.1.1 Power connection

The transmitter can be powered by battery or AC power.

AC Power Connection

The charge connector should be inserted correctly, or the transmitter would be damaged.



P.S.: The transmitter is also can use Battery to supply power.

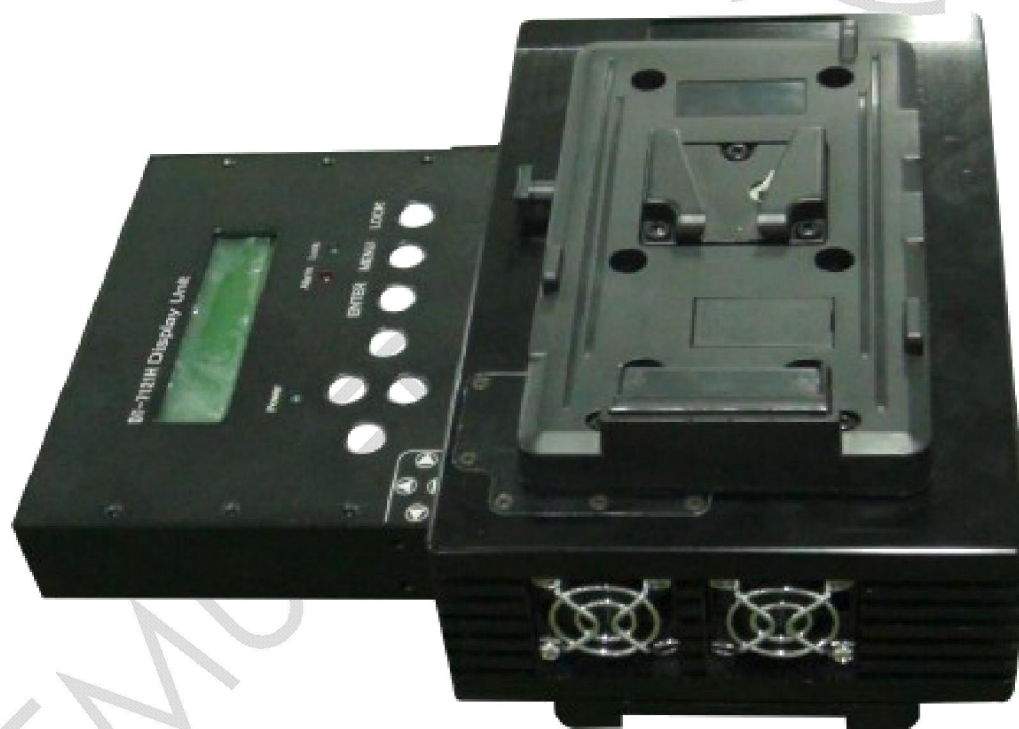
2.5.1.2 Input signal wire connection



Transmitter Display Unit



FUTV-7132H Transmitter



Easy to setup power, modulating mode and frequency with the display unit

2.5.2 Wire's Connection of Receiver

2.5.2.1 Power Connection

The receiver can be powered by AC power or 12V DC power. If users use the AC power, only need to connect the receiver by the power cord directly. If users use an external DC power, the DC power can connect with the receiver on the port of DC 12V.

2.5.2.2 Signal output connection

The signal can output through ASI, HDMI, HD-SDI, CVBS or YPr/Pb. Users should connect the signal wires on correspondent ports according to the necessary output form.

(Reference to the illustration of receiver rear panel in 1.5.2)

Attention :

If the receiver dose not install external antenna amplifier, users have to turn feed to 0V before turning on receiver. Otherwise the receiver will be burnt out. If the receiver is equipped with external amplifier, users have to turn feed to voltage that amplifier voltage supply requires. When external amplifier installed, if the feed is adjusted to voltage 0V, the transmitting distance will be shortened.



F Caution:

Before connecting power cord to the transmitter and the receiver, user should set the power switch to “OFF”.

Chapter 3 Operation

3.1 Operation of Transmitter



Easy to setup power, modulating mode and frequency with the display unit

3.2 Operation of Receiver

The receiver can be managed via both the front panel (LCD window & key board) and NMS software.

3.2.1 Operation of LCD window and key board of Receiver

FUTV-2009HIA digital receiver's front panel is user operation interface, where users operate and control the receiver. The LCD is a 2-line*20-character back-lit dot-matrix user interface with pushbuttons for **UP, DOWN, LEFT, RIGHT, ENTER, MENU, and LOCK** for front panel control.

Users can decide whether directly use the factory setting, or customize the input/output parameters settings manually, detail operations go as follows:

Keyboard Function Description:

MENU : To cancel presently entered value or resume previous setting;

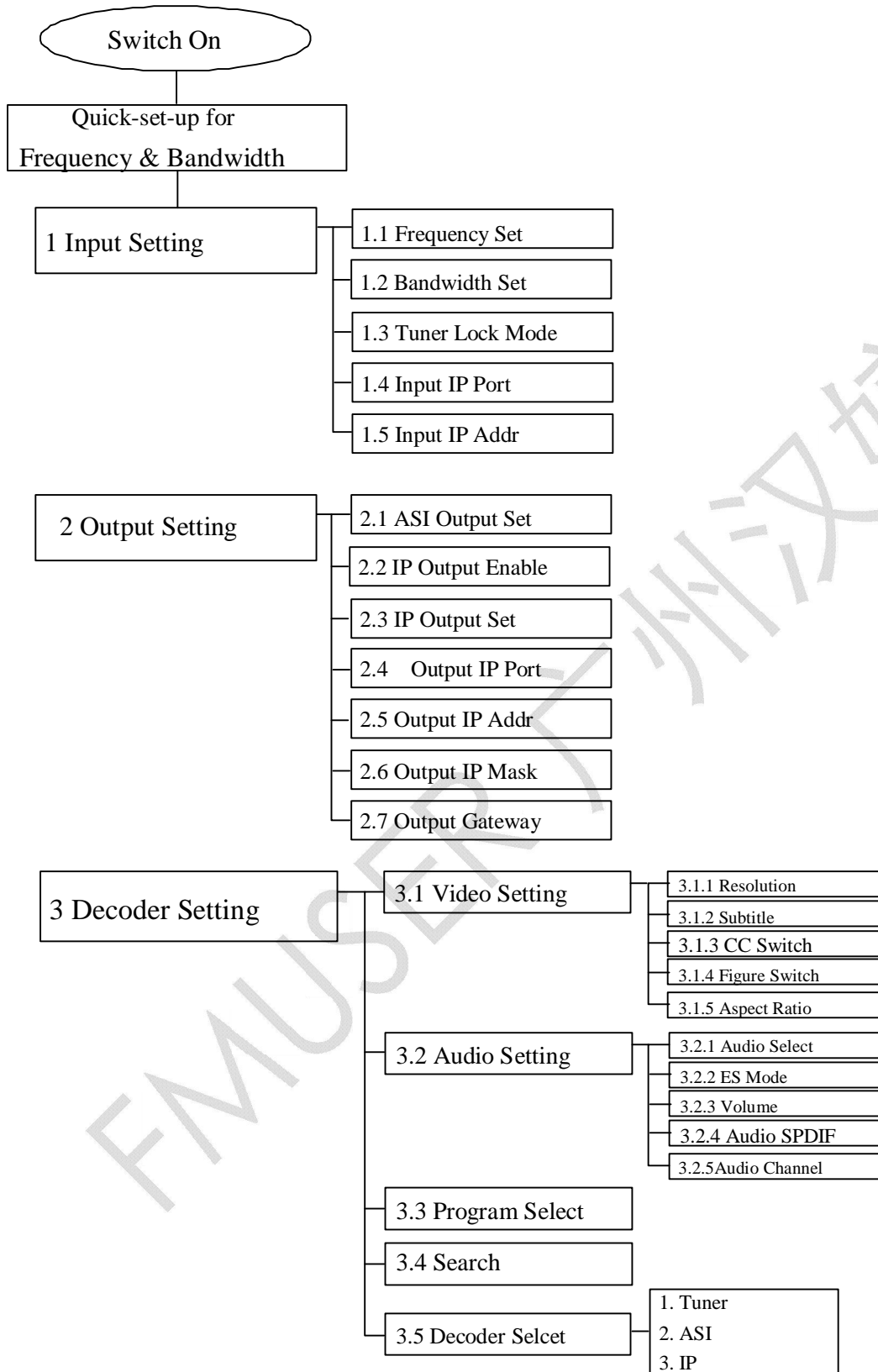
ENTER : Activating the parameters which needs modify, or confirming the change after modification.

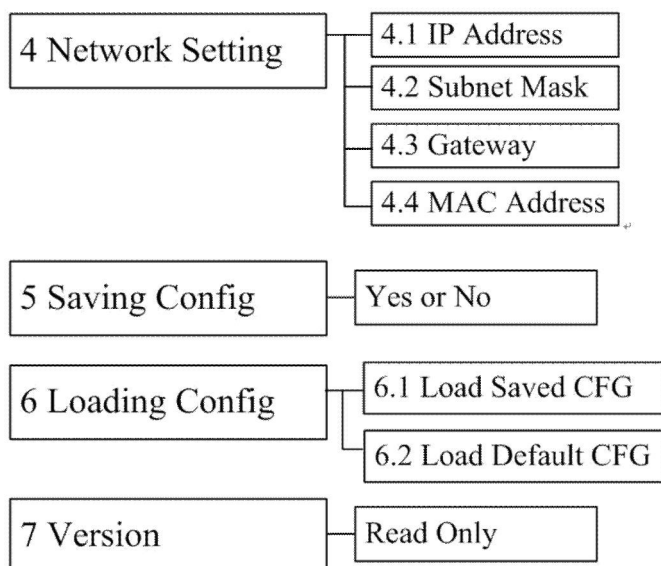
LEFT/RIGHT: To choose and set the parameters

UP/DOWN : To modify activated parameters or page up/down when parameter is inactivated.

LOCK : Lock the screen / cancel the lock state .After pressing lock key, the system will question the users to save or not .If not, the LCD will display the current configuration state.

3.2.1.1 LCD Menus Overview

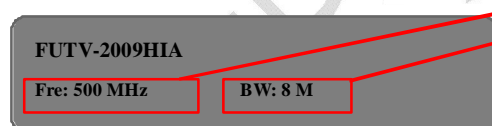




3.2.1.2 General Settings for Main Menu

After switching on the receiver, the LCD displays in the first line the model number.

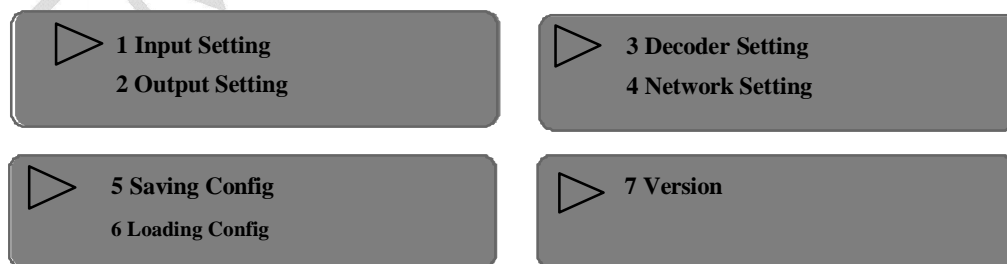
What shown in the second line is a quick-set-up interface for the inputting frequency and bandwidth. User can modify the values directly by pressing the UP/DOWN buttons.



Quick-set-up for the **frequency** and **bandwidth** of LNB INPUT signal

Press UP/DOWN buttons to adjust the values. It has the same function with "1 Input Setting".

Press "Lock" key on the front panel to enter the main menu. The LCD will display the following pages where user can configure more parameters for the receiver:

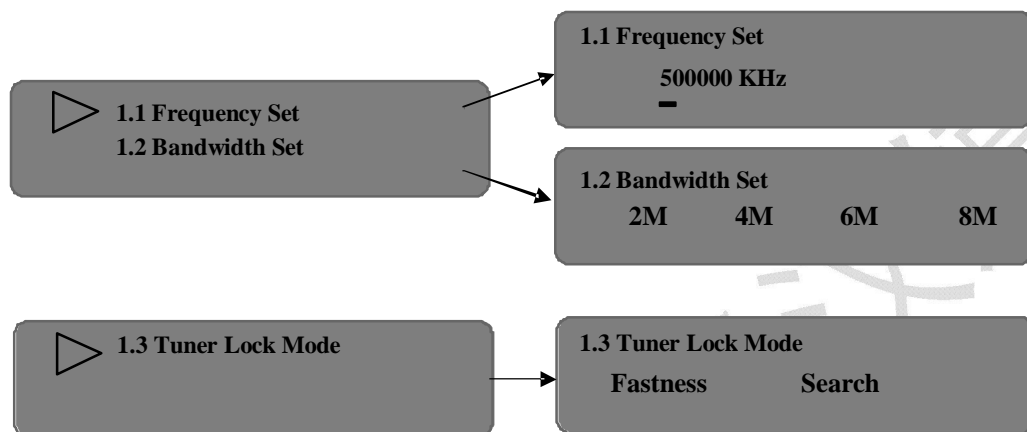


User can press UP/DOWN buttons to specify a corresponding item, and then press ENTER to enter the its submenus as below:

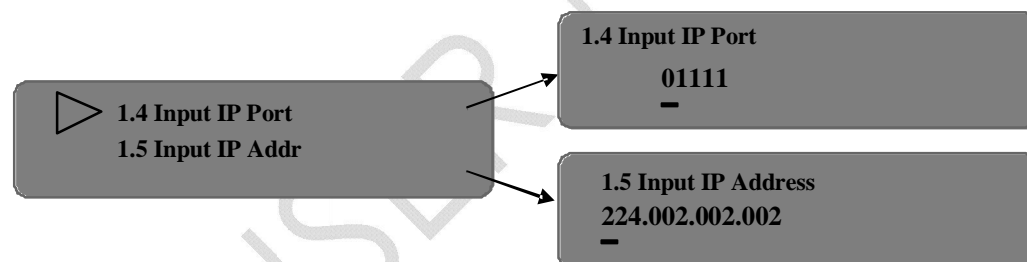
1) Input Setting

Submenus “1.1”-“1.3” under “Input Setting” are for setting the input signals from LNB INPUT 1/2. Both the frequency and bandwidth can be modified.

NOTE: The “Input Setting” can be realized through a quick-set-up explained at the beginning of “3.2.1.2”.



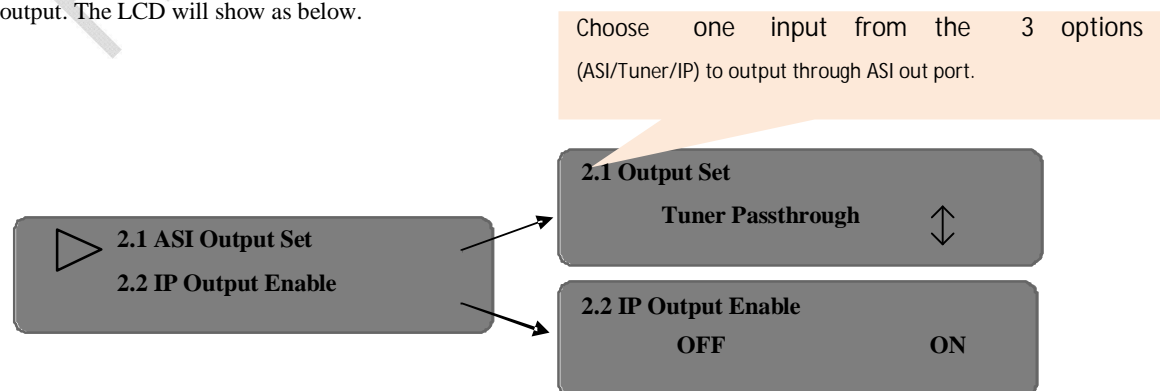
“1.4”-“1.5” are for setting the input IP port and address.

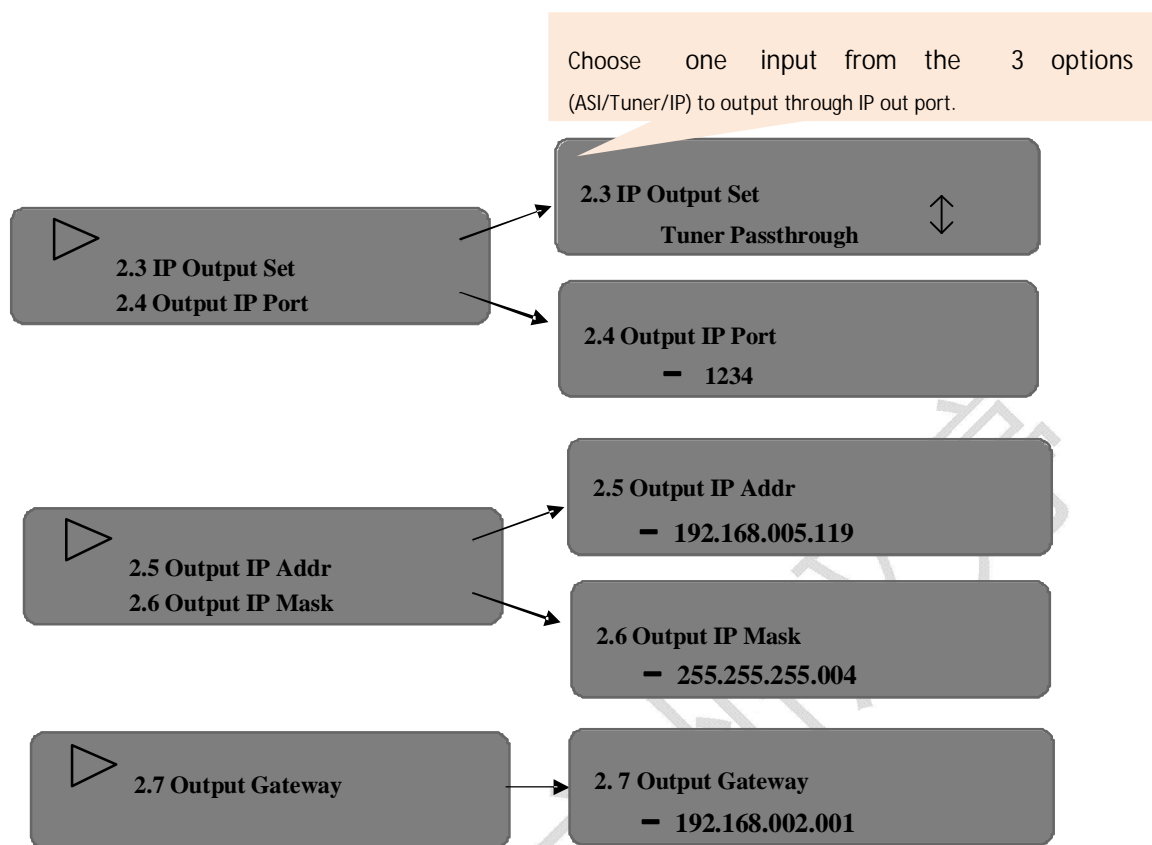


2) Output Setting

FUTV-2009HIA digital receiver is equipped with tuner (LNB) input, ASI input and IP input, ASI and IP output. Users can choose one of the inputs to pass through to ASI or

IP output. The LCD will show as below.

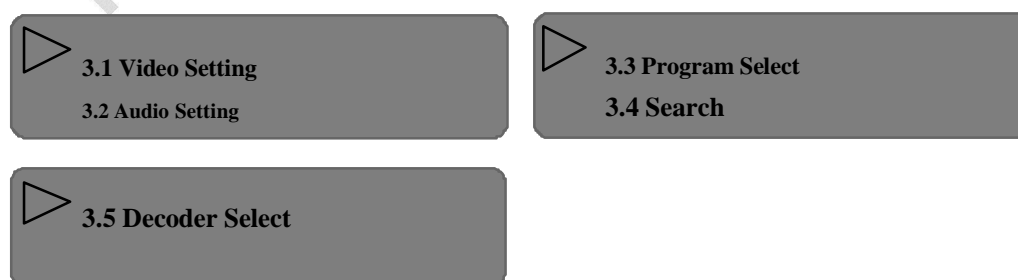




Press ENTER to start edit and UP/DOWN/LEFT/RIGHT buttons to modify parameters and press ENTER to confirm.

3) Decoder Setting

FUTV-2009HIA digital receiver can decode the source signals and output A/V or TS available at ASI, CVBS, HSDI, HDMI, YPbPr, and L/R audio channels. Users can set the Audio& Video parameters and select program to broadcast under this menu. The LCD will show as below.



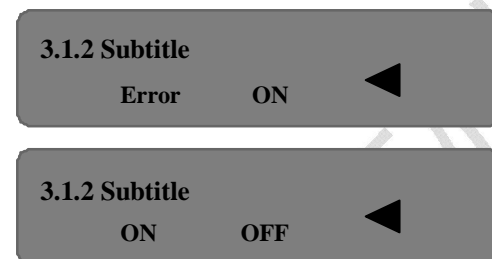
Ø Video Setting

Under this sub-menu, users can set different parameters for the output video including the *Resolution*, *Subtitle*, *CC Switch*, *Figure Switch*, and *Aspect Ratio*. Detailed operations are explained as below:



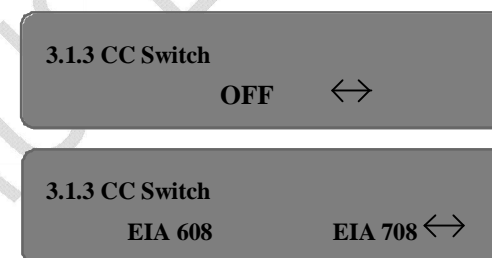
Resolution: Press UP/DOWN to select one resolution and press ENTER to confirm.

The resolution includes: 1080I@50, 1080I@60, 720P, 576P, 576I, 480I, 480P, 1080I@59.94, 720P@59.94, and Auto.



Subtitle: Choose “ON” to display the subtitle on the TV screen, and “OFF” to conceal.

When there is no subtitle in the video stream, it displays “ERROR” in the menu.



CC (Close Caption) Switch: Press LEFT/RIGHT buttons to select between “OFF”, “EIA 608”, and “EIA 708”. Press ENTER to confirm after the selection.

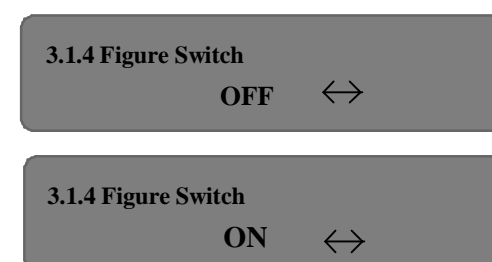


Figure Switch: Press LEFT/RIGHT buttons to select between “OFF” and “ON” (“OFF”: to conceal the figure; “ON”: to display the figure). Press ENTER to confirm after the selection.

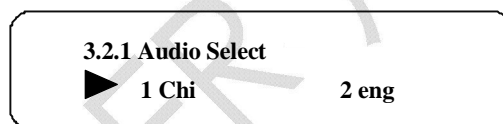


Aspect Ratio: Press LEFT/RIGHT buttons to set the Aspect Ratio for the output video.

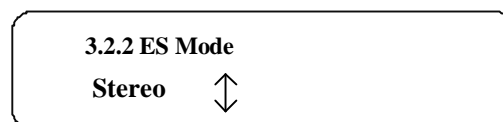
5 options are provided including: 16:9 FULL, 16:9 letter box, 4:3 FULL, 4:3 letter box, and 16:9 4:3 Crop. Press ENTER to confirm after the selection.

Ø Audio Setting

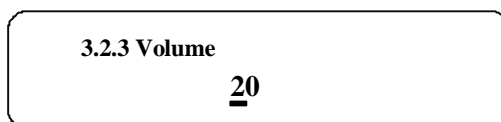
Under this sub-menu, users can set different parameters for the output audio including the *Audio Select*, *ES Mode*, *Volume*, *Audio SPDIF*, and *Audio Channel*. Detailed operations are explained as below:



Audio Select: This interface is to configure the language for the output audio, and it displays different content according to the configuration of the source audio stream. For example: “eng” represents *English* and “Chi” represents *Chinese*.



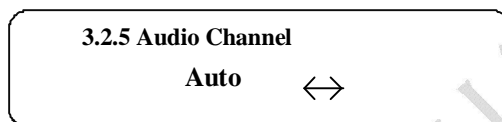
ES Mode: it contains “Stereo”, “Left Channel” and “Right Channel” three options. Press UP/DOWN to shift the options and press ENTER to confirm.



Volume: It ranges from 0-25. Press LEFT/RIGHT buttons to move the underline which indicates the value is activated, and press UP/DOWN buttons to adjust the activated number. Press ENTER to confirm.

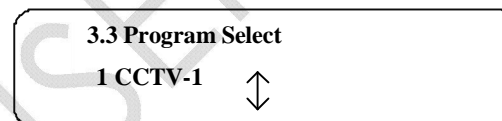


Audio SPDIF: 4 options are provided including “Auto”, “PCM”, “Compressed” and “OFF”. Press LEFT/RIGHT buttons to shift the option and press ENTER to confirm.



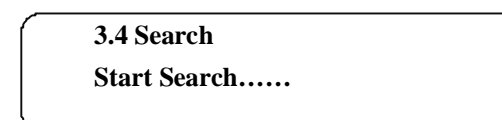
Audio Channel: 2 options are provided including “Auto”, and “2 Channels”. Press LEFT/RIGHT buttons to shift the option and press ENTER to confirm.

Ø Program Select



Before entering into this menu to select the program, user should enter the menu 3.5 and 3.4 in turn to search out the programs, then press UP/DOWN after entering into above menu to select the target program to output. All the searched programs will be displayed individually.

Ø Search



The device will start searching the input programs automatically after user select the mode of decoding in the menu 3.5.

Ø Decoder Select

3.5 Decoder Select
1 Tuner ↕

3.5 Decoder Select
2 ASI ↕

3.5 Decoder Select
3 IP ↕

There are 3 ways (Tuner, ASI and IP) of decoding as this receiver is designed to receive signals from tuner, ASI and IP. Press UP/DOWN to select and press ENTER to confirm.

4) Network setting

After enter Network Setting, there are 4 submenus shown as the following:

▶ 4.1 IP Address
4.2 Subnet Mask

▶ 4.3 Gateway
4.4 MAC Address

▶ 4.5 Service IP

User can press “UP/DOWN” and “ENTER” to choose an item and “ENTER” & “LEFT/RIGHT” & “UP/DOWN” to set the parameters.

All the values displayed are the default value. Users can modify it as needed.

IP Address
192.168.002.136
—

Subnet Mask
255.255.255.000
—

Gateway
192.168.002.001
—

MAC Address
ffff ffff ffff

NOTE: The MAC address is set by the factory, and it is unique. Users can only change it through PC with special software.

Service IP
192.168.001.137
—

5) Saving Configuration

Users can enter Saving Configuration submenu for saving settings. Choose yes and press ENTER to confirm.

Save Configuration?
Yes ▶ No

Saving Config...

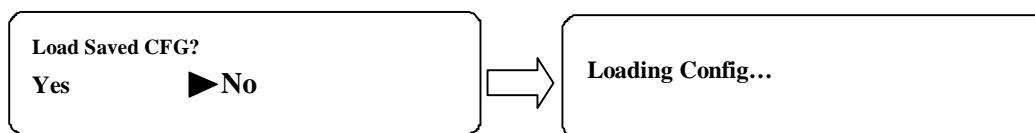
6) Loading Configuration

At this menu, user can press UP/DWON key to select and repress ENTER to confirm.

User can restore the device into the last saved configuration by choosing “6.1” and restore the device into factory configuration by choosing “6.2” the display will show as below:

▶ 6.1 Load Saved CFG
6.2 Load Default

↓



7) Version

User can check the software version and hardware version of this equipment under this submenu.



3.2.2 Web NMS Operation of FUTV-2009HIA Receiver

User can not only manage the FUTV-2009HIA Receiver through the LCD window & front buttons, but also can control and set the configurations through computer by connecting the device to web NMS Port. (Ensure that the computer's IP address is different from the receiver's IP address, which otherwise would cause IP conflict.)

3.2.2.1 Login

The default IP address of the receiver is 192.168.2.136. (We can modify the IP through the front panel-4.Network 4.1 IP Address.)

Connect the PC (Personal Computer) and the device with net cable, and use ping command to confirm they are on the same network segment.

I.G. the PC IP address is 192.168.99.252, we then change the device IP to 192.168.99.xxx (xxx can be 0 to 255 except 252 to avoid IP conflict).

Use web browser to connect the device with PC by inputting the receiver's IP address in the browser's address bar and press Enter.

It will display the Login interface as Figure-1. Input the Username and Password (Both the default Username and Password are "admin".) and then click "LOGIN" to start the device setting.

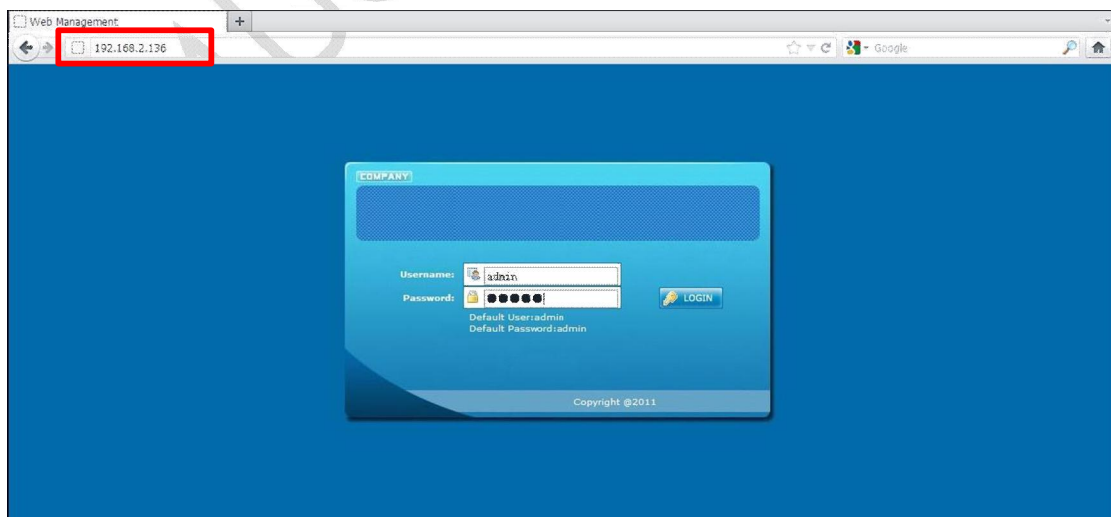


Figure-1

3.2.2.2 Operation

The management interface contains 3 main categories: “*Welcome*”, “*Parameters*”, and “*System*”. The latter 2 items contain their own specified categories.

- Ø “*Welcome*” - When we confirm the login, it displays the WELCOME interface as Figure-2. It’s brief introduction of the receiver.

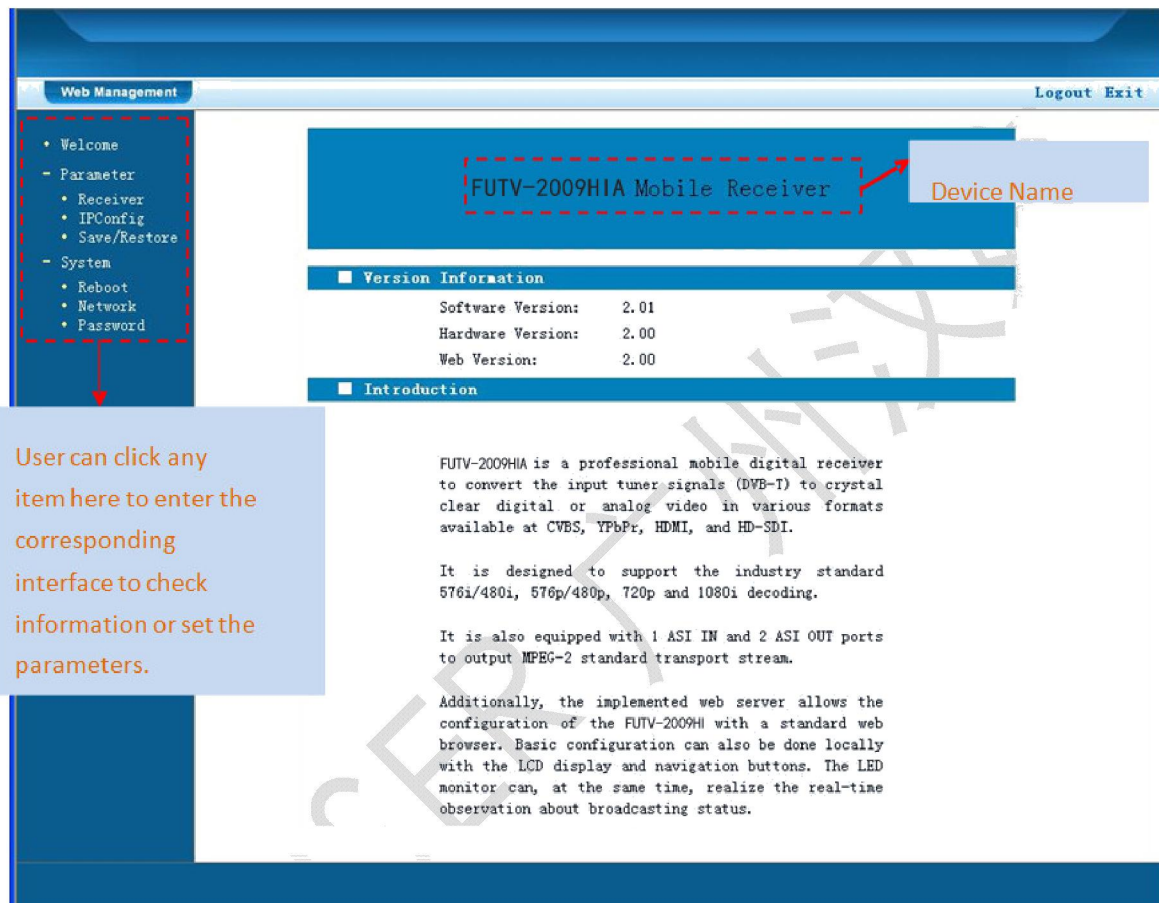


Figure-2

- Ø “*Parameters*” – to set the parameters for the receiver, it contains 2 parts.

Receiver

From the menu on left side of the webpage, clicking “receiver”, users can configure the parameters for input signals and output A/V in the 2 sections separately as in Figure-3.

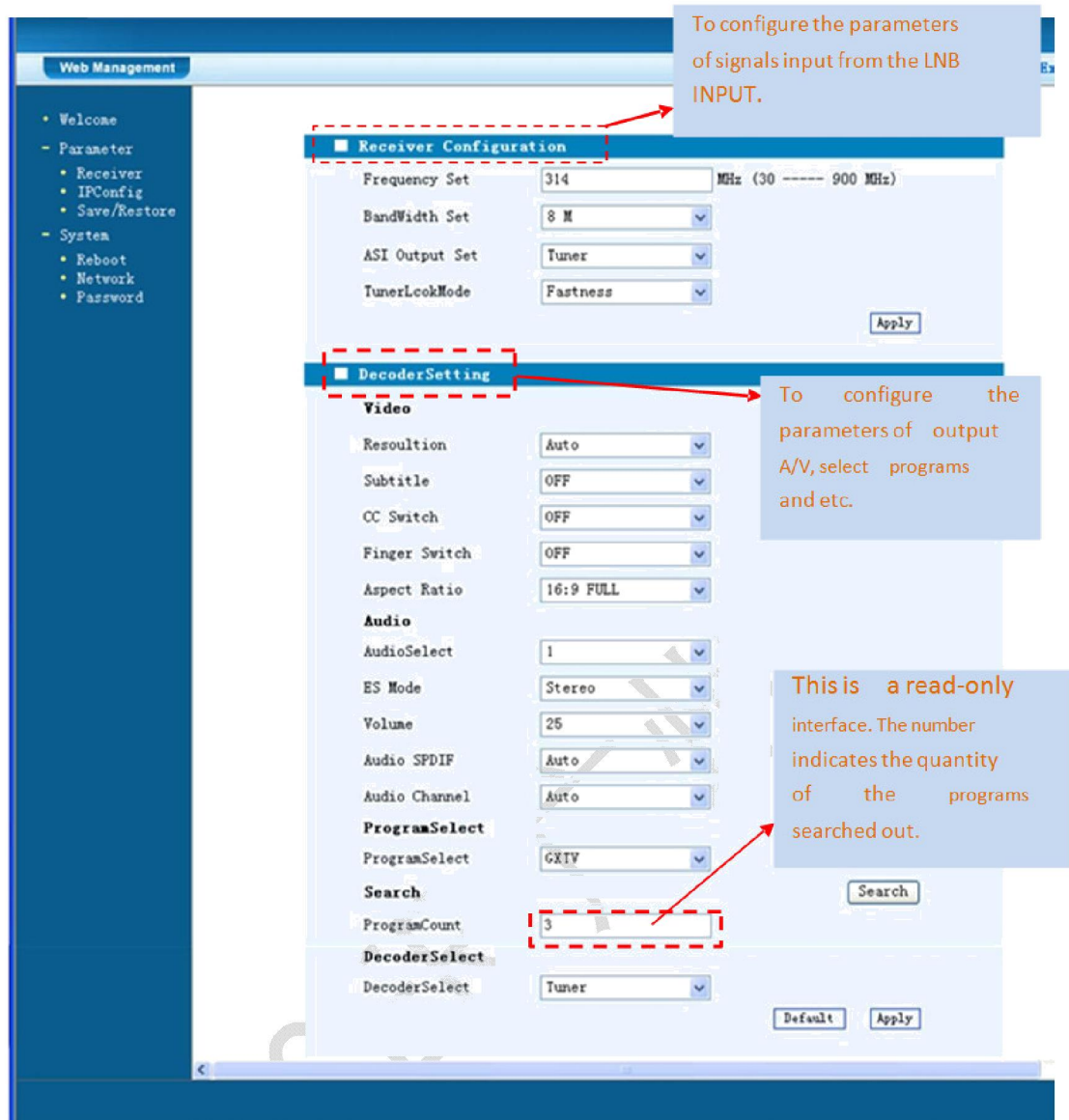
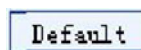


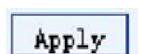
Figure-3



Click this button to auto search the input programs.



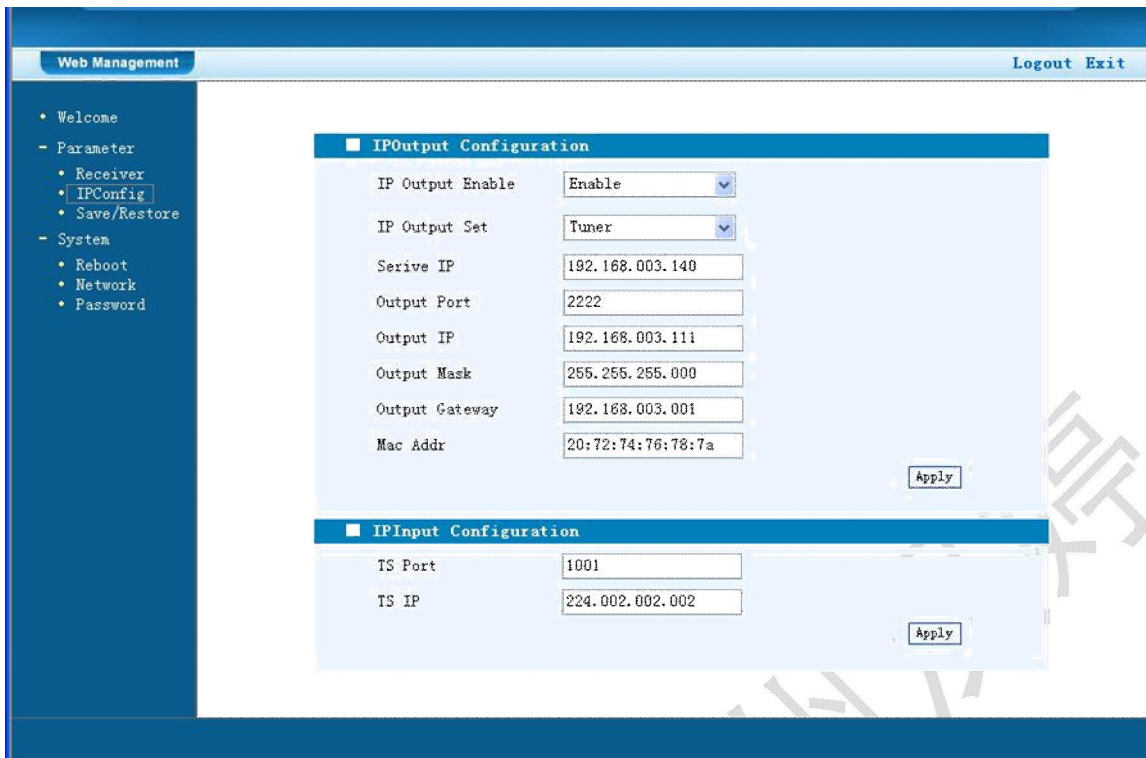
Click this button to apply the default setting of the receiver



Click this button to apply the modified parameters.

IP Configuration

Clicking “IP Config” from the menu, it will display the screen as Figure-4 where to do the IP configuration.

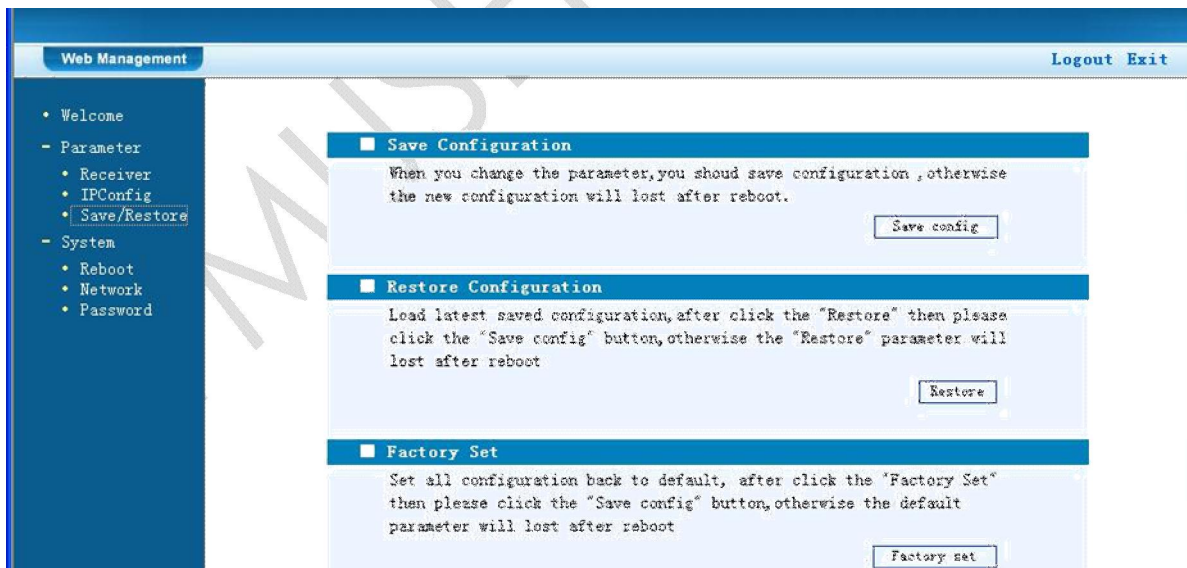


The screenshot shows the 'Web Management' interface with a sidebar menu on the left containing 'Welcome', 'Parameter' (with sub-items 'Receiver', 'IPConfig', and 'Save/Restore'), and 'System' (with sub-items 'Reboot', 'Network', and 'Password'). The main content area is titled 'IP Configuration' and is divided into two sections: 'IPOutput Configuration' and 'IPInput Configuration'. The 'IPOutput Configuration' section includes fields for 'IP Output Enable' (set to 'Enable'), 'IP Output Set' (set to 'Tuner'), 'Serive IP' (192.168.003.140), 'Output Port' (2222), 'Output IP' (192.168.003.111), 'Output Mask' (255.255.255.000), 'Output Gateway' (192.168.003.001), and 'Mac Addr' (20:72:74:76:78:7a). The 'IPInput Configuration' section includes fields for 'TS Port' (1001) and 'TS IP' (224.002.002.002). Both sections have an 'Apply' button at the bottom right.

Figure-4

Save/Restore

Clicking “Save/Restore” from the menu, it will display the screen as Figure-5 where to save the configuration permanently to the device.



The screenshot shows the 'Web Management' interface with the 'Save/Restore' option selected in the sidebar menu. The main content area is titled 'Save Configuration' and contains three sections: 'Save Configuration', 'Restore Configuration', and 'Factory Set'. The 'Save Configuration' section includes a warning message: 'When you change the parameter, you should save configuration, otherwise the new configuration will lost after reboot.' and a 'Save config' button. The 'Restore Configuration' section includes a warning message: 'Load latest saved configuration, after click the "Restore" then please click the "Save config" button, otherwise the "Restore" parameter will lost after reboot' and a 'Restore' button. The 'Factory Set' section includes a warning message: 'Set all configuration back to default, after click the "Factory Set" then please click the "Save config" button, otherwise the default parameter will lost after reboot' and a 'Factory set' button.

Figure-5

“Save Configuration”: click this button to store the data permanently to the device.

“Restore”: click this button to restore the latest saved configuration to the device.

“Factory Set”: click this button to import the default factory configuration.

Ø “System” – to set the network and account of the receiver, it contains 3 parts.

Reboot

Click “Reboot” from the menu, the screen will display as Figure-6. Users can restart the device by clicking “Reboot” button.

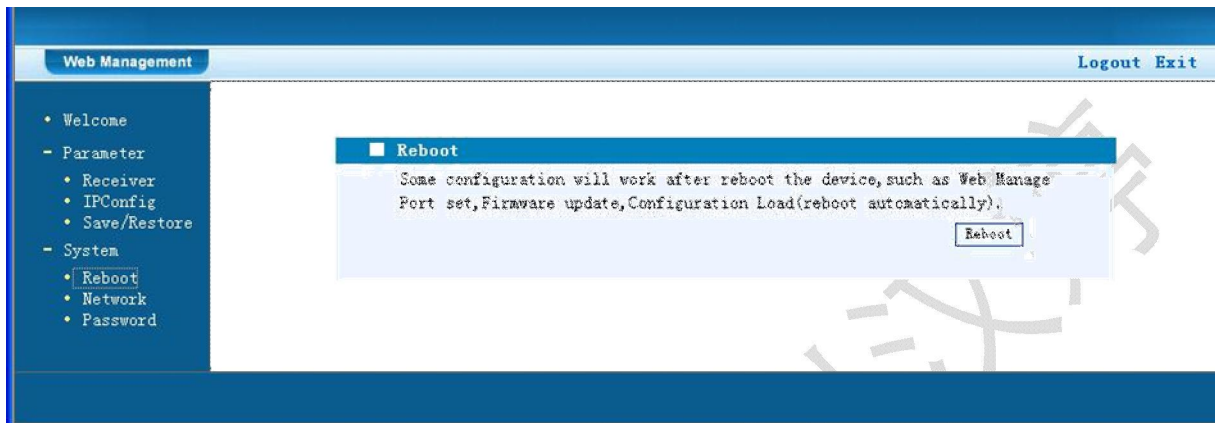


Figure-6

Network

Clicks “Network” and it displays the network information of the device as Figure-7.

User can change the device network configuration as needed.

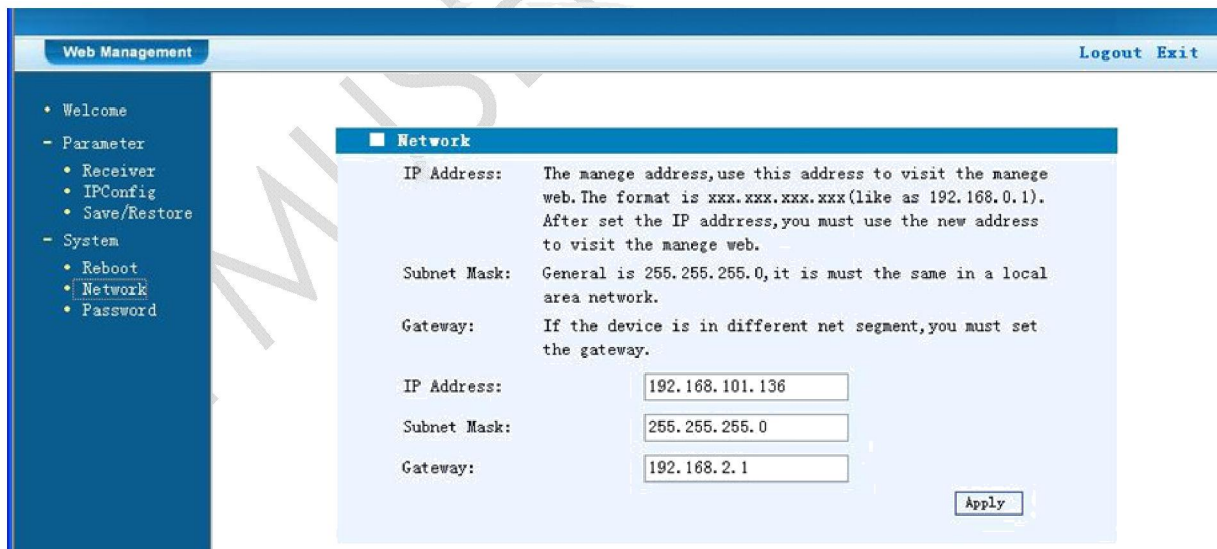
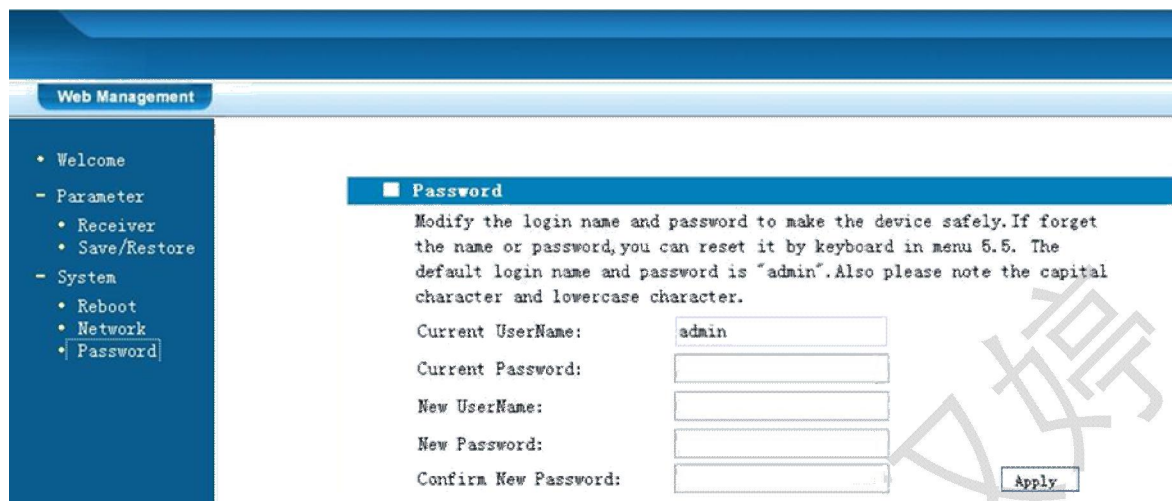


Figure-7

Password

Click “Password” and it displays the password screen as Figure-8 where to change the Username and Password for login to the device.

After putting the current and new Username and Password, click Apply” to save the configuration.



The screenshot shows the 'Web Management' interface. On the left is a navigation menu with the following items: Welcome, Parameter (Receiver, Save/Restore), System (Reboot, Network, Password). The 'Password' item is selected. The main content area is titled 'Password' and contains the following text: 'Modify the login name and password to make the device safely. If forget the name or password, you can reset it by keyboard in menu 5.5. The default login name and password is "admin". Also please note the capital character and lowercase character.' Below this text are five input fields: 'Current UserName' (containing 'admin'), 'Current Password', 'New UserName', 'New Password', and 'Confirm New Password'. An 'Apply' button is located to the right of the 'Confirm New Password' field.

Figure-8

Chapter 4 Failure Clearing

Ü Trouble 1: There are several interference fringes or snowflake in displayer.

Trouble shooting: It is generally because the front video line is too close to antenna.

The failure can be eliminated by putting them a little further.

Ü Trouble 2: The displayer turns up black and white image.

Trouble shooting: Please be sure that the audio output cable is well connected with monitor, and the fault line is well-connected. It is generally because the front video line is too close to antenna. The failure can be eliminated by putting them a little further.

Ü Trouble 3: The mobile transmitting terminal has signal in close range, but the signal will weak or disappear when the distance become a little far.

Trouble shooting: Please test the electromagnetic environment around the receiver terminal, and make sure there is no interference source around the receiving frequency.

If strong interference source exists, the device needs changing frequency.

Ü Trouble 4: The signal is unable to synchronize at close range or long distance

Trouble shooting: The problem is caused by the transmitter instantaneously synchronizing dictation, so users have to restart the transmitter.

Ü Trouble 5: The transmitter has no power output, and the transmission distance is not far.

Trouble shooting: The power amplifier is possibly damaged. It is generally because the antenna is not connected before power on, which keeps the power amplifier in a longtime no-loading and burnt out. In this situation, users should replace the power amplifier.

Ü Trouble 6: The power output of transmitter is normal, but the transmission range is not far.

Trouble shooting: The problem that when the transmitting distance is not far enough and the direct attenuation cannot reach 120dBi, is generally caused by the low noise amplifier damage. Users can replace the low noise amplifier to solve the problem.

FMUSER 广州汉婷

Chapter 5 Packing List

| Items | Quantity | Remarks |
|------------------------|----------|----------|
| Transmitter | 1 pcs | Optional |
| Receiver | 1 pcs | Standard |
| Transmitting antenna | 1 pcs | Optional |
| Receiving antenna | 1 pcs | Optional |
| Power cord | 1 pcs | Standard |
| A/V wire | 1 set | Standard |
| TS stream line | 1 pcs | Optional |
| Transferring connector | 6 pcs | Optional |
| UHF/N-kj connector | 1 pcs | Standard |
| Sucker | 1 pcs | Optional |
| Remote control | 1 pcs | Optional |
| Battery | 1 pcs | Optional |